Coronavirus disease 2019 presenting with conjunctivitis as the first symptom

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To the Editor:

Coronavirus disease 2019 (COVID-19) is a public health emergency that has reached the proportions of a pandemic [1]. At present, Italy has been one of the most affected Countries with the majority of cases documented in Northern Italy, especially in the Lombardia Region [2]. We herein report a case of confirmed COVID-19 presenting with unilateral conjunctivitis.

A 48-year-old man attended our Emergency Eye Department complaining of a 5-day history of redness and watery discharge in the right eye (RE) associated with foreign body sensation. Medical history was unremarkable with no history of cigarette smoking. On questioning, patient reported history of intermittent dry cough and mild fever over the last 3 days. Blood pressure was 135/90 mmHg. Temperature was 38 °C and the oxygen saturation level was 97% (SpO₂) while the patient was breathing ambient air. Clinical history and slit lamp examination were consistent with a viral conjunctivitis in the RE. Because of the respiratory symptoms and the ongoing COVID-19 outbreak in our Region, a chest X-ray scan was ordered and showed increased bronchovascular marking with no definite signs suggestive of pneumonia (Supplemental Figure). Nasal and pharyngeal swab specimens for real-time reverse transcriptase-polymerase chain reaction assay were taken and turned out to be positive for COVID-19. Patient was admitted for observation and

received supportive therapy consisting of oral paracetamol 1 g three times/day and a tapering course of topical tobramycin–dexamethasone in the RE. Given normalization of temperature and improvement of both the respiratory and the ocular symptoms, patient was discharged after 3 days of observation and home isolation for 14 days was advised.

Conjunctivitis seems to be a rare clinical finding among patients with confirmed diagnosis of COVID-19 since it has been reported in <1% of the overall cases in China [3]. However, the presence of a mild conjunctivitis may have been underreported in those patients presenting with a complex and life-threatening clinical scenario.

While we cannot be entirely sure that the conjunctivitis in our case was a direct manifestation of COVID-19, the concomitance of the ocular and systemic flu-like symptoms makes the causal relationship likely. A recent study showed that COVID-19 nucleic acid may be detected in the tears and conjunctival secretions of patients with COVID-19-related pneumonia and conjunctivitis [4]. However, the accuracy of the conjunctival swab test has been questioned by the observation that patients with CoV-2-related conjunctivitis may have negative test results which, by contrast, may be positive in patients without conjunctivitis [5].

The importance of recognizing possible early ocular manifestation of COVID-19, as well as using protective eyewear among healthcare professionals, has already been outlined in recent editorials [5–7]. Since it has been speculated that the virus may enter the tears through droplets, which may pass through the nasolacrimal ducts, and then into the respiratory tract [4], conjunctivitis may represent one of the first symptoms of COVID-19. To the best of our knowledge, we report the first European confirmed COVID-19 case presenting with conjunctivitis as the first symptom. The present case outlines the importance of questioning patients presenting with conjunctivitis about respiratory and other systemic symptoms

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which should prompt clinicians to rule out COVID-19 infection.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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